slow advance of high No. I on the Atlantic Coast. After this storm was fairly well organized it advanced with great rapidity and disappeared off Nova Scotia on the morning of the 10th. The aforementioned trough continued to advance broadside forward giving heavy rains over a vast region and did not leave its final trace on the coast till the morning of the 13th, when it deposited 1.74 inch of rain at Hatteras in twenty-four hours. A wind of 56 miles per hour was reported at Hatteras on the evening of the 12th.

V.—This storm originated in Kansas on the morning of the 13th, though twelve hours before there had been rain in northern Texas and Kansas. It moved very rapidly in a northeast direction and disappeared to the north of Lake Superior the evening of the 14th; lowest pressure, 29.72, at Port Arthur the morning of the 14th.

VI.—This storm originated to the north of Montana on the morning of the 16th with a pressure of 29.56 at Battleford. Its motion was very rapid toward the east tending south and it disappeared in the Gulf of St. Lawrence the evening of the 18th; lowest pressure, 29.34, at Port Arthur the morning of the 17th. It was characterized by very slight rainfall during its progress and by rather moderate winds for the barometric gradients noted.

VII.—While No. VI was passing eastward a long trough was noted stretching toward the southwest to Texas. This trough was without precipitation, however, except at the extreme northeast end. On the evening of the 18th No. VII was first noted as a sort of condensation in this trough over Missouri. This storm also moved northeast with great rapidity and disappeared over Newfoundland the evening of the 21st. As it approached the coast its conditions became very much intensified, a pressure of 28.74 being noted at Chatham the morning of the 21st. Here, as in a previous case, the wind velocity, 47 miles at Block Island, was entirely incommensurate with the barometric gradients noted.

VIII.—This storm was a concentration of the conditions forming a trough stretching from Arkansas to the Pacific Coast. It first took shape in Arkansas on the morning of the 22d. Its motion was very rapid in a northeasterly direction to the St. Lawrence Valley, where it disappeared the afternoon of the 23d; rains accompanying were generally light; the heaviest was 1.48 of an inch in twenty-four hours at Cairo on the 23d; lowest pressure, 29.86, at Fort Smith on the morning of the 22d.

IX.—The trough from VIII stretched to the west Gulf, and there this (the only Gulf storm of the month) was energized or concentrated on the morning of the 24th, with a pressure of 30.02 at Galveston. This was by far the severest storm of the month, and was regarded as of sufficient importance to call for a Special Bulletin (No. 2 of 1895).

The following quotations are made from this Bulletin:

The morning map of the 25th showed an extended trough of low pressure covering the lower Mississippi and Ohio valleys, with the center near Vicksburg, 29.68 inches. Storm signals were ordered for the lower Lakes and information signals on the upper Lakes, giving notice of this storm twenty-four and thirty-two hours in advance of dangerous gales.

The storm moved to the east of north at 33 miles per hour between the morning and evening reports of the 25th, causing heavy rains in the lower Ohio and Mississippi valleys, and heavy snows in the states north of the Ohio River. It was central at Louisville on the evening of the 25th. Considerable damage from high winds occurred in the Ohio Valley and Tennessee, but the storm did not reach its maximum intensity till the night of the 25th, when it passed from the Ohio Valley to the north of Lake Huron, moving at 75 miles per hour between 8 p. m. of the 25th and 8 a. m. of the 26th. This was one of the severest storms in the lower Lake region. Mean velocities were, at Detroit, 76, Cleveland, 72, and Erie, 60 miles per hour, and at Buffalo that night 68 miles per hour. The storm was followed by a cold wave throughout the lower Mississippi Valley on the morning of the 26th, which extended eastward to the Atlantic Coast on the morning of the 27th, causing freezing temperatures as far south as the central portions of the Gulf States, and frosts along the east Gulf Coast and in northern Florida.

Warnings for high winds and cold waves were fully sent out in the case of this storm.

X.—This storm seems to have originated very near the north Pacific Coast on the evening of the 26th. Its motion was generally eastward with a slight bend to the southward as it crossed the Mississippi Valley, reaching the Gulf of St. Lawrence on the morning of the 30th. The storm had but slight intensity and the precipitation was slight. Lowest pressure, 29.50, at Spences Bridge on the morning of the 27th. A disturbed region existed in the extreme northwest on the last days of the month, but the path of the storm was not definite enough to be charted.

LOCAL STORMS.

By A. J. HENRY, Chief of Division of Records and Meteorological Data.

The term "local" storm has been used in this chapter as applying to the phenomena of thunderstorms and wind gusts of more than usual severity. These may occur, in isolated cases, in groups, or they may be general over one or more States, but as a rule they die out with nightfall. The typical local storm is particularly a phenomenon of the warmer months of the year, and is rarely observed in its full development in winter. The caption "local" storm, is therefore not so appropriate as might be desired for the matter appearing herein during the colder months of the year.

The early part of the month was singularly free from storms of any description; on the 14th and 15th, however, considerable havoc was wrought on the Long Island and New Jersey coasts by high northeasterly gales and the heavy breakers accompanying a slight depression that passed along the coast on those dates. The damage to bulkheads, jetties and piers, was estimated to be very great.

The weather conditions on Sunday the 24th were unsettled. Rain was falling from the Mississippi Valley to the Gulf of St. Lawrence, and snow in western Nebraska, Kansas, and northern Texas. Rain was also falling on the Gulf Coast, but a definite storm center was not yet visible on the daily weather maps. The latter appeared, however, twenty-four hours later, and moved to the Great Lakes as a severe storm of wind, rain, snow, and sleet, whose boundaries extended from the eastern slope of the Rocky Mountains to the Atlantic Seaboard. Telegraphic and telephonic communication and railway traffic were interrupted in all sections covered by the storm. The wind in places reached a very high velocity and caused immense damage. In the oil fields of western Ohio alone the loss was estimated to have been $300,000. The storm was most severe in the central valleys and passed over the Lakes and beyond our boundaries on the 26th.

TEMPERATURE OF THE AIR.

[In degrees Fahrenheit.]

The mean temperature is given for each station in Table II, for voluntary observers. Both the mean temperatures and the departures from the normal are given in Table I for the regular stations of the Weather Bureau.

The *monthly mean temperature* published in Table I, for the regular stations of the Weather Bureau, is the simple mean of all the daily maxima and minima; for voluntary stations a variety of methods of computation is necessarily allowed, as shown by the notes appended to Table II.

The *regular diurnal period* in temperature is shown by the hourly means given in Table IV for 29 stations selected out of 82 that maintain continuous thermograph records.

The *distribution* of the monthly mean temperature of the air over the United States and Canada is shown by the dotted isotherms on Chart II; the lines are drawn over the high irregular surface of the Rocky Mountain Plateau, although the temperatures have not been reduced to sea level, and the isotherms, therefore, relate to the average surface of the